

Of Knives, Moose Milk, and Planes that Land

Norm Bailey

Cosmos 954 started losing orbit altitude in December 1977. Not much was known about the Soviet satellite—its size, its weight, and most importantly, the amount of nuclear material in its reactor. A month later, the Laboratory's Nuclear Emergency Search Team (NEST) was quietly notified to get ready to find the satellite, wherever it landed.

I remember very well sitting on the tarmac in Las Vegas with our equipment loaded on Air Force cargo planes, waiting to find out whether we were going to Tahiti or to the frozen north of Canada. It was January 1978, and a Russian satellite powered by a nuclear reactor was reentering the atmosphere. Apparently, the Russians had some trouble controlling it. The normal procedure was to boost the reactor itself to a higher orbit, where it would stay for 500 years or more. But something went wrong with this particular one. They couldn't boost it up, so it reentered the atmosphere. There was concern that the reactor would come down in fairly large chunks, and that there would be an intense radioactive source that could harm people. The Lab had the equipment and techniques that would help locate it, so we ended up playing a major role in predicting where it was going to come down. We wound up going to Canada.

Once we knew that the satellite was entering somewhere within the Northwest Territories of Canada, we flew to Edmonton and met up with the Canadian military who we worked with. They did a tremendous and very professional job.

We loaded some equipment on a C-130 and headed 600 miles farther north. Once there, we started doing surveys to see where we thought there might be some radioactive material. Because this was the end of January, at times it was more than 40 below with the wind blowing. We slept in tents in double sleeping bags, and the Canadian military issued each of us a nice little knife, telling us that if we woke up in the night and the tent was on fire, we could make our own door to get out.

We went to Baker Lake, which is in the northern part of Hudson Bay and then took a helicopter out to the Thelon River, which is about a 3- or 4-hour ride. A group of us landed and went to investigate an unusual-looking object that had been found by a group of travelers. We checked it out and indeed, it was part of the reactor.

It was decided that we needed to do a more intensive search of that area, so the Canadian military set up a tent camp for us. The night we landed on the Cosmos Lake ice runway, there was a celebration with a big pan of "moose milk." We eventually found 107 or 108 pieces of the reactor over a total area of 200 miles long and 20 miles wide.





Left: Part of the satellite equipment that was recovered over an area 200 miles long.

Opposite page:
Operation Morning
Light Crew.

One night we had flown out of Baker Lake to the collection area. After about 3 or 4 hours of work out there trying to identify things, we were ready to go back. But we couldn't get the helicopter engines to start. After about two hours, we still couldn't get them to go. We all looked at each other and realized, "We're spending the night, folks."

We erected the survival tents, got out our trusty knives and cut blocks of snow to build a snow wall to keep the wind off the tent. There were 16 of us, and only two tents. How do we break it up? It was decided that we'd have a smoking tent and a nonsmoking tent. But it was still hard to have eight people lying down because the tents were so small. So one person stood watch all the time. They'd watch for an hour and then wake somebody else up, and that person would stand watch for an hour. The next day they brought in some rescue planes to get us out. The plane came in and flew over us and everybody ran out and waved. But they flew off, were gone a while, and then came back, flew over and flew off again.

About the third time, you could begin to see that people were getting really concerned. They weren't too eager to spend a second night out there. The Canadian survival guide started getting us to play games to keep our minds off the fact that we might not be rescued. We played games, chased each other, threw snowballs, and stuff like that, just to keep our spirits up.

The rescue plane finally appeared on the horizon, taxiing rather than flying. The plane, which was on skis, hadn't been able to find a place to land. But they finally landed down the river about 6 miles away, and then taxied all the way up to where we were.

We were in the Northwest Territories for 4 to 5 weeks. Eventually, some people were saying, "What am I doing here in this cold?" But some people were having a lot of fun. I certainly was.

A One-Way Trip to Russia

Mike MacCracken

Even after tensions eased between the U.S. and the Soviet Union toward the end of the Cold War, Lab scientists still had a few unsettling moments when traveling to Russia.

For a meeting hosted by the Soviet Academy of Sciences in 1988, travel and expenses were to be covered by the hosts. All we had to do was get to a North American airport from which Aeroflot departed. Because of the dates for the meeting, about a dozen of us met in Montreal for the departing flight. Our group from the Lab included a few veterans of such trips and a couple of newcomers.

When we arrived at the Aeroflot check-in counter to get our tickets, we were told that indeed they had the tickets to get us to Moscow, but unfortunately, they had no tickets for our return. This being a time when spies were being caught, detained, and exchanged, getting everyone to agree to take a one-way trip to Russia took a bit of encouragement. Everything eventually got worked out—it turned out the difficulty had to do with which Soviet organization was going to pay for the trip and whether the payment was supposed to be in rubles or dollars.